

SOME GRAVITY TERMS.....

A ^① "SATELLITE" is ANYTHING THAT ORBITS AROUND AN OBJECT, whether its the MOON OR A MACHINE.

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^② "ARTIFICIAL SATELLITE"

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^③ "NATURAL SATELLITE"

To get a satellite into orbit around earth, it must 1st achieve ^④ "ORBITAL velocity", around 7.9 km/s, where

$$mg = \frac{mv^2}{r} \quad \text{and} \quad v = \sqrt{gr}$$
$$W = F_c = \sqrt{(9.8)(6.4 \times 10^6)} = 7900 \text{ m/s}$$

If a satellite orbits in-step with the earth's Rotation, we say its in a ^⑤ "GEOSYNCHRONOUS ORBIT". Both move

together so the satellite always remains directly above the same spot on the earth's

equator. [CAN ONLY BE DONE AT ALTITUDES GREATER THAN 6 EARTH RADII]

Once in geosynchronous orbit, the satellite will stay there; no force other than its weight [CENTRIPETAL] is needed to keep it in orbit.